

Facility ID: 0228000194 Issuance type: Final State Permit To Operate

This version of facility specific terms and conditions was converted from a database format to an HTML file during an upgrade of the Ohio EPA, Division of Air Pollution Control's permitting software. Every attempt has been made to convert the terms and conditions to look and substantively conform to the permit issued or being drafted in STARS. However, the format of the terms may vary slightly from the original. In addition, although it is not expected, there is a slight possibility that a term and condition may have been inadvertently "left out" of this reproduction during the conversion process. Therefore, if this version is to be used as a starting point in drafting a new version of a permit, it is imperative that the entire set of terms and conditions be reviewed to ensure they substantively mimic the issued permit. The official version of any permit issued final by Ohio EPA is kept in the Agency's Legal section. The Legal section may be contacted at (614) 644-3037.

In addition to the terms and conditions, hyperlinks have been inserted into the document so you may more readily access the section of the document you wish to review.

Finally, the term language under "Part II" and before "A. Applicable Emissions Limitations..." has been added to aid in document conversion, and was not part of the original issued permit.

- [Go to Part II for Emissions Unit P003](#)
- [Go to Part II for Emissions Unit P004](#)
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- [Go to Part II for Emissions Unit P006](#)

THIS IS NOT AN OFFICIAL VERSION OF THE PERMIT. SEE PAGE 1 FOR ADDITIONAL INFORMATION

Facility ID: 0228000194 Emissions Unit ID: P003 Issuance type: Final State Permit To Operate

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Part II - Special Terms and Conditions

This permit document constitutes a permit-to-install issued in accordance with ORC 3704.03(F) and a permit-to-operate issued in accordance with ORC 3704.03(G).

1. For the purpose of a permit-to-install document, the emissions unit terms and conditions identified below are federally enforceable with the exception of those listed below which are enforceable under state law only.
 - (a) None.
2. For the purpose of a permit-to-operate document, the emissions unit terms and conditions identified below are enforceable under state law only with the exception of those listed below which are federally enforceable.
 - (a) None.

A. Applicable Emissions Limitations and/or Control Requirements

1. The specific operation(s), property, and/or equipment which constitute this emissions unit are listed in the following table along with the applicable rules and/or requirements and with the applicable emissions limitations and/or control measures. Emissions from this unit shall not exceed the listed limitations, and the listed control measures shall be employed. Additional applicable emissions limitations and/or control measures (if any) may be specified in narrative form following the table.

<u>Operations, Property, and/or Equipment</u>	<u>Applicable Rules/Requirements</u>	<u>Applicable Emissions Limitations/Control Measures</u>
P003 - BMC Mixer No. 1053 Werner Pflederer 100- gallon (800 lb) Sigma Mixer	OAC rule 3745-17-07 (A)	The emission limitation specified by this rule is less stringent than the emission limitation established pursuant to OAC rule 3745-31-05 (A)(3).
	OAC rule 3745-17-11 (B)	The emission limitation specified by this rule is less stringent than the emission limitation established pursuant to OAC rule 3745-31-05 (A)(3).
	OAC rule 3745-21-07 (G)(2)	The hourly limit based on this applicable rule is less stringent than the hourly limit established pursuant to OAC rule 3745-31-05 (A)(3).
	OAC rule 3745-31-05 (A)(3) PTI No. 02-21414	See section A.2.a of these terms and conditions. Visible particulate emissions from the dust collector stack shall not exceed five percent (5%) opacity as a six-minute average.
	OAC rule 3745-31-05 (C) PTI No. 02-21414	See sections A.2.b - A.2.g of these terms and conditions. Volatile organic compound (VOC) emissions (styrene) from this emissions unit shall not exceed 0.81 pound per hour and 3.34 tons per year. See sections A.2.h - A.2.1 and B.1 of these terms and conditions.

2. Additional Terms and Conditions

- (a) The emissions of organic materials from the production operation consist of styrene, a photochemically reactive material, as defined in OAC rule 3745-21-01 (C)(5). The permittee shall only use non-photochemically reactive material for clean-up. Particulate emissions generated from emissions units P003, P004, P005, and P006 combined shall not exceed 1.00 pounds per hour and 4.38 tons per year. Organic compounds (OC) emissions from the use of acetone or any other non-photochemically reactive clean-up material in emissions units P003, P004, P005, and P006 combined shall not exceed 0.40 tons per year. A cover shall be used on this emissions unit. The permittee shall keep the mixer cover closed while actual mixing is occurring, except when adding materials to this emissions unit. The permittee shall use a shaking-type dust collector with timer, which shall periodically clean the dust cake from the bags, to control the particulate emissions generated from the operation of this emissions unit. The permittee shall use VOC vapor-suppressed bags to store the mixed materials prior to further use. The facility-wide VOC (styrene) emissions shall not exceed 9.00 tons per year, based upon a rolling, 12-month summation.

The permittee shall seek pre-approval from Ohio EPA, by (at a minimum) submitting facility-wide potential-to-emit (PTE) analysis, before the installation of any additional pre-blending tank at the facility. This does not waive the permittee responsibility to comply with OAC rule 3745-31.

The maximum percentage of styrene in the pre-blended liquid materials shall not exceed forty-six percent (46.00 %) by weight.

Only pre-blended liquid materials originating from this facility's pre-blending tanks shall be used in this emissions unit. Pre-blended liquid materials are prohibited from being transferred to any holding tanks or storage vessels in or outside of this facility, except in cases of malfunction.

The pre-blending tanks in the facility shall be operated in such a manner that each complete batch of the pre-blended liquid materials shall be transferred to only one mixer at this facility. Therefore, when the two pre-blending tanks are operating there shall be no more than two mixers in operation at any given time at this facility.

B. Operational Restrictions

1. The total styrene throughput in the facility shall be no more than 1,755,410 pounds on a rolling, 12-month summation basis.

To ensure enforceability during the first 12 calendar months of operation, following the issuance of permit to install No. 02-21414, March 28, 2006, the permittee shall not exceed the styrene throughput specified in the following table:

Month(s) Maximum Allowable Cumulative Styrene Throughput (Pounds)

1 146,284
 1 - 2 292,568
 1 - 3 438,852
 1 - 4 585,136
 1 - 5 731,420
 1 - 6 877,704
 1 - 7 1,023,988
 1 - 8 1,170,272
 1 - 9 1,316,556
 1 - 10 1,462,840
 1 - 11 1,609,124
 1 - 12 1,755,410

After the first 12 calendar months of operation following the issuance of permit to install No. 02-21414, March 28, 2006, compliance with the annual styrene throughput limitation shall be based upon a rolling, 12-month summation of styrene throughput.

C. Monitoring and/or Record Keeping Requirements

1. The permittee shall properly operate and maintain the timer in the dust collector, which shall periodically clean the dust cake from the bags, while the emissions unit is in operation. The timer shall be installed, calibrated, operated, and maintained in accordance with the manufacturer's recommendations, instructions, and operating manual(s). The permittee shall check the timer on a weekly basis.
2. The permittee shall perform weekly checks, when the emissions unit is in operation and when the weather conditions allow, for any visible particulate emissions from the stack of the dust collector serving this emissions unit. The presence or absence of any visible emissions shall be noted in an operations log. If visible emissions are observed, the permittee shall also note the following in operation log:

- a. the color of the emissions;
- b. whether the emissions are representative of normal operations;
- c. if the emissions are not representative of normal operations, the cause of the abnormal emissions;
- d. the total duration of any visible emission incident; and
- e. any corrective actions taken to eliminate the visible emissions.

3. The permittee shall record the following information for this emissions unit each day:
 - a. The name and identification number of each batch of materials mixed in this emissions unit.
 - b. The total operating hours of this emissions unit, defined as "OT", in hours per day.
 - c. The amount of pre-blended liquid materials used in each batch, defined as "AM", in pounds per batch.
 - d. The percentage of styrene in the pre-blended liquid materials by weight in each batch, defined as "ST%", in pounds styrene per pound of pre-blended liquid materials.
 - e. The total VOC (styrene) emissions from this emissions unit for the day, defined as "DVOC", in pounds per day. "DVOC" shall be calculated as follows:

$DVOC = \text{the sum, from } i = 1 \text{ to } i = n \text{ of } [(AM)(ST\%)(EF)]_i$,

where,

$i =$ subscript denoting an individual mixing batch of this emissions unit;

$n =$ the total number of mixing batch of this emissions unit; and

$EF =$ emission factor, in pounds VOC emissions per pound of styrene input, determined by the most recent stack test.

- f. The average hourly VOC (styrene) emissions from this emissions unit, "Hvoc", in pounds per hour, shall be calculated as follows:

$$Hvoc = (DVOC)/(OT)$$

4. The permittee shall keep the following information each month:
 - a. The monthly VOC (styrene) emissions from this emissions unit, in tons per month;
 - b. The monthly facility-wide VOC (styrene) emissions, in tons per month;
 - c. The rolling, 12-month summation of the total facility-wide VOC (styrene) emissions, in tons.
 - d. The monthly styrene throughput, in pounds per month; and
 - e. The rolling, 12-month summation of total styrene throughput, in pounds.
5. The permittee shall keep the following clean-up material information each month for emissions units P003, P004, P005, and P006 combined:
 - a. The identification of each clean-up material employed and whether the clean-up material is a non-photochemically reactive material.
 - b. The volume of each clean-up material employed, defined as "Vclean-up", in gallons per month.
 - c. The OC content of each clean-up material, defined as "OCcontent", in pounds OC per gallon of the clean-up material.
 - d. The total OC emissions from clean-up materials, "OCclean-up", in pounds per month, shall be calculated as follows:

$$OCclean-up = \text{the sum, from } j = 1 \text{ to } j = m \text{ of } [(Vclean-up)(OCcontent)]_j,$$
 where,
 j = subscript denoting an individual clean-up material; and
 m = the total number of clean-up materials employed.
 - e. The rolling, 12-month summation of the total OC emissions from clean-up materials, in tons.
6. The permittee shall keep a daily operating log with the following information:
 - a. Whether a cover is used while actual mixing is occurring (except when adding materials to this emissions unit). If a cover is not used in this emissions unit while actual mixing is occurring (except when adding materials to this emissions unit), an explanation of why this emissions unit's cover is not closed;
 - b. Whether this emissions unit accepts pre-blended liquid materials from one of the two pre-blending tanks at the facility. If this emissions unit accepts pre-blended liquid materials other than those originating from one of the two facility's pre-blending tanks, the reason for this activity, and the actual amount of pre-blended liquid materials being used by this emissions unit in this manner;
 - c. Whether the pre-blended liquid materials from pre-blending tanks at the facility are transferred into holding tanks or any other type of containers prior to use in the mixers. The log should include an explanation of any time material is transferred to a holding tank or other container because of an emergency or other abnormal circumstance, and the actual amount of pre-blended liquid materials being transferred.
7. The permit to install for emissions units P003, P004, P005, and P006 combined were evaluated based on the actual materials and design parameters of the emissions units' exhaust system, as specified by the permittee in the permit to install application. The Ohio EPA's "Review of New Sources of Air Toxic Emissions" policy ("Air Toxic Policy") was applied for each pollutant potentially emitted by this emissions unit, using data from the permit to install application and the SCREEN 3.0 model (or other Ohio EPA approved model). The predicted 1-hour maximum ground-level concentration from the use of the SCREEN 3.0 model was compared to the Maximum Acceptable Ground-Level Concentration (MAGLC). The following summarizes the results of the modeling for the "worst case" pollutant(s):

Pollutant: styrene
 TLV (mg/m3): 85.202
 Maximum Hourly Emission Rate (lbs/hr): 2.06
 Predicted 1-Hour Maximum Ground-Level Concentration (ug/m3): 1,330
 MAGLC (ug/m3): 2,029
8. Physical changes to or changes in the method of operation of the emissions unit after its installation could affect the parameters used to determine whether or not the "Air Toxic Policy" is satisfied. Consequently, prior to making a change that could impact such parameters, the permittee shall conduct an evaluation to determine that the "Air Toxic Policy" will be satisfied. If, upon evaluation, the permittee determines that the "Air Toxic Policy" will not be satisfied, the permittee will not make the change. Changes that can affect the parameters used in applying the "Air Toxic Policy" include the following:
 - a. changes in the composition of the materials used (typically coatings or cleanup materials), or the use of new materials, that would result in the emission of a compound with a lower Threshold Limit Value (TLV), as indicated in the most recent version of the handbook entitled "American Conference of Governmental Industrial Hygienists (ACGIH)", than the lowest TLV value previously modeled;
 - b. changes in the composition of the materials, or use of new materials, that would result in an increase in emissions of any pollutant with a listed TLV that was proposed in the application and modeled; and
 - c. physical changes to the emissions units or the exhaust parameters (e.g., increased/decreased exhaust flow, changes in stack height, changes in stack diameter, etc.).

If the permittee determines that the "Air Toxic Policy" will be satisfied for the above changes, the Ohio EPA will not consider the change(s) to be a "modification" under OAC rule 3745-31-01 solely due to the emissions of any type of toxic air contaminant not previously emitted, and a modification of the existing permit to install would not be required. If the change(s) is (are) defined as a modification under other provisions of the modification definition, then the permittee shall obtain a final permit to install prior to the change.

9. The permittee shall collect, record, and retain the following information when it conducts evaluations to determine that the changed emissions unit will still satisfy the "Air Toxic Policy":
 - a. a description of the parameters changed (composition of materials, new pollutants emitted, change in stack/exhaust parameters, etc.);
 - b. documentation of its evaluation and determination that the changed emissions unit still satisfies the "Air Toxic Policy"; and
 - c. where computer modeling is performed, a copy of the resulting computer model runs that show the results of the application of the "Air Toxic Policy" for the change.

D. Reporting Requirements

1. The permittee shall submit quarterly written reports which:
 - a. identify all days during which any visible particulate emissions were observed from the stack serving this emissions unit; and
 - b. describe any corrective actions taken to eliminate the visible particulate emissions.

These reports shall be submitted to the Director (the appropriate Ohio EPA District Office or local air agency) in accordance with the deviation reporting requirements in the General Term and Conditions.
2. The permittee shall submit deviation (excursion) reports which include the following information for this emissions unit:
 - a. An identification of each day during which the average hourly VOC (styrene) emissions from this emissions unit exceeded 0.81 pound, and the actual average hourly VOC (styrene) emissions for each such day.
 - b. An identification of each month during which the rolling, 12-month facility-wide VOC (styrene) emissions exceeded 9.00 tons, and the actual rolling 12-month facility-wide VOC (styrene) emissions for each such month.
 - c. An identification of each day during which the maximum percentage of styrene in any batch of pre-blended liquid materials exceeded forty-six percent (46.00%) by weight limitation, and the actual styrene percentage by weight in pre-blended liquid materials for each such a batch in each day.
 - d. An identification of each day during which this emissions unit accepted pre-blended liquid materials other than those originating from one of the pre-blending tanks at this facility, and the actual amount of pre-blended liquid materials accepted by this emissions units for each such a batch in each day, along with the reason for such an activity.
 - e. An identification of each day during which any batch of pre-blended liquid materials originating from this facility's pre-blended tanks were transferred to more than one mixer in this facility, and the actual amount of pre-blended liquid materials has been transferred to each mixer for each such a batch in each day, along with the reason for such activities.
 - f. An identification of each day during which pre-blended liquid materials were transferred into any holding tanks or storage vessels in or outside of this facility, and the actual amount of pre-blended liquid materials has been transferred, along with the reason for such activities.
 - g. An identification of each month during which a photochemically reactive clean-up material was employed in emissions units P003, P004, P005, and P006, and the actual amount of photochemically reactive clean-up material has been employed for each such a month.
 - h. An identification of each month during which the rolling, 12-month total styrene throughput in the facility exceeded 1,755,410 pounds, and the actual amount of styrene throughput in each such month.
3. All deviation (excursion) reports shall be submitted in accordance with the General Terms and Conditions.
4. The permittee shall submit annual reports that specify the VOC (styrene) emissions from this emissions unit, OC emissions from clean-up material employed in emissions units P003, P004, P005, and P006, as well as the total styrene throughput and facility-wide VOC (styrene) emissions. The reports shall include the calculations, shall be submitted by January 31 of each year, and shall cover the previous calendar year.

E. Testing Requirements

1. Compliance with the emission limitation in section A.1 of these terms and conditions shall be determined in accordance with the following method(s):
 - a. Emission Limitation: 1.0 lb/hr of particulate for emissions units P003 - P006 combined

Applicable Compliance Method:
Compliance shall be determined in accordance with the following:

$$EPP002-P005 = (ME)(FR)(60 \text{ min/hr})/(7,000 \text{ grains/lb})$$

where,
ME = the maximum emission rate from the dust collector stack by the manufacture guarantee number, which is 0.03 grain/ft³; and
FR = the maximum flow rate of the dust collector = 3,900 ft³/min.

If required, the permittee shall demonstrate compliance by emission testing in accordance with Method 5, 40

CFR Part 60, Appendix A.

b. Emissions Limitation: 0.81 lb/hr of VOC (styrene)

Applicable Compliance Method:

Compliance shall be determined based upon record keeping requirements specified in section C.3 of these terms and conditions. If required, the permittee shall demonstrate compliance by emission testing in accordance with Method 25A, 40 CFR Part 60, Appendix A.

c. Emission Limitation:

3.34 tons/yr of VOC (styrene)

Applicable Compliance Method:

Compliance shall be determined based upon record keeping requirements specified in section C.4 of these terms and conditions.

d. Emission Limitation:

0.4 ton/yr of OC from clean-up material employed in emissions units P003 - P006 combined

Applicable Compliance Method:

Compliance shall be determined based upon record keeping requirements specified in section C.5 of these terms and conditions.

e. Emission Limitation:

4.38 tons/yr of particulate for emissions units P003 - P006 combined

Applicable Compliance Method:

The tons per year limitations were developed by multiplying the pound per hour limitations by the maximum operating schedule of 8,760 hours per year, and dividing by 2,000 pounds per ton. Therefore, provided compliance is shown with the hourly limitations, compliance will also be shown with the annual limitations.

f. Emission Limitation: 5% opacity as 6-minute average

Applicable Compliance Method:

Compliance shall be determined by visible emission evaluations performed in accordance with OAC rule 3745-17-03 (B)(1) using the test methods and procedures specified in U.S. EPA Reference Method 9.

g. Emission Limitation: 9.00 tons per year of VOC (styrene) facility-wide

Applicable Compliance Method:

Compliance shall be determined based upon record keeping requirements specified in section C.4 of these terms and conditions.

h. Emissions Limitation: 46.00% styrene by weight in pre-blended liquid materials

Applicable Compliance Method:

Compliance shall be determined based upon record keeping requirements specified in section C.3 of these terms and conditions.

i. Emission Limitation: 1,755,410 pounds of total styrene throughput

Applicable Compliance Method:

Compliance shall be determined based upon record keeping requirements specified in section C.4 of these terms and conditions.

2. The permittee shall conduct, or have conducted, emission testing for this emissions unit in accordance with the following requirements:

a. The emission testing shall be conducted within six months prior to permit renewal.

b. The emission testing shall be conducted to demonstrate compliance with the allowable hourly mass emission rate for VOC (styrene) from this emissions unit and determine an emission factor of VOC (styrene) emissions for this emissions unit.

c. The following test method(s) shall be employed to demonstrate compliance with the allowable mass emission rate(s): for VOC (styrene) mass emission rate, Method 25A of 40 CFR Part 60, Appendix A and Method 204F of 40 CFR Part 51 Appendix M. Alternative U.S. EPA-approved test methods may be used with prior approval from the Ohio EPA. The test methods and procedures selected shall be based on a consideration of the diversity of the organic species present and their total concentration, and on a consideration of the potential presence of interfering gases.

d. The test(s) shall be conducted while the emissions unit is operating at or near its maximum capacity, unless otherwise specified or approved by the appropriate Ohio EPA District Office or local air agency.

Not later than 30 days prior to the proposed test date(s), the permittee shall submit an "Intent to Test" notification to the appropriate Ohio EPA District Office or local air agency. The "Intent to Test" notification shall describe in detail the proposed test methods and procedures, the emissions unit operating parameters, the time (s) and date(s) of the test(s), and the person(s) who will be conducting the test(s). Failure to submit such notification for review and approval prior to the test(s) may result in the Ohio EPA District Office's or local air agency's refusal to accept the results of the emission test(s).

Personnel from the appropriate Ohio EPA District Office or local air agency shall be permitted to witness the test(s), examine the testing equipment, and acquire data and information necessary to ensure that the operation of the emissions unit and the testing procedures provide a valid characterization of the emissions from the emissions unit and/or the performance of the control equipment.

A comprehensive written report on the results of the emissions test(s) shall be signed by the person or persons responsible for the tests and submitted to the appropriate Ohio EPA District Office or local air agency within 30

days following completion of the test(s). The permittee may request additional time for the submittal of the written report, where warranted, with prior approval from the appropriate Ohio EPA District Office or local air agency.

F. Miscellaneous Requirements

- 1. None

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Facility ID: 0228000194 Emissions Unit ID: P004 Issuance type: Final State Permit To Operate

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Part II - Special Terms and Conditions

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- 1. For the purpose of a permit-to-install document, the emissions unit terms and conditions identified below are federally enforceable with the exception of those listed below which are enforceable under state law only.
 - (a) None.
- 2. For the purpose of a permit-to-operate document, the emissions unit terms and conditions identified below are enforceable under state law only with the exception of those listed below which are federally enforceable.
 - (a) None.

A. Applicable Emissions Limitations and/or Control Requirements

- 1. The specific operation(s), property, and/or equipment which constitute this emissions unit are listed in the following table along with the applicable rules and/or requirements and with the applicable emissions limitations and/or control measures. Emissions from this unit shall not exceed the listed limitations, and the listed control measures shall be employed. Additional applicable emissions limitations and/or control measures (if any) may be specified in narrative form following the table.

<u>Operations, Property, and/or Equipment</u>	<u>Applicable Rules/Requirements</u>	<u>Applicable Emissions Limitations/Control Measures</u>
P004 - BMC Mixer No. 1056 Littleford FKM-600-D 95-gallon (600 lbs) Plow Mixer	OAC rule 3745-17-07 (A)	The emission limitation specified by this rule is less stringent than the emission limitation established pursuant to OAC rule 3745-31-05 (A)(3).
	OAC rule 3745-17-11 (B)	The emission limitation specified by this rule is less stringent than the emission limitation established pursuant to OAC rule 3745-31-05 (A)(3).
	OAC rule 3745-21-07 (G)(2)	The hourly limit based on this applicable rule is less stringent than the hourly limit established pursuant to OAC rule 3745-31-05 (A)(3).
	OAC rule 3745-31-05 (A)(3) PTI No. 02-21414	See section A.2.a of these terms and conditions. Visible particulate emissions from the dust collector stack shall not exceed five percent (5%) opacity as a six-minute average.
	OAC rule 3745-31-05 (C) PTI No. 02-21414	See sections A.2.b - A.2.g of these terms and conditions. Volatile organic compound (VOC) emissions (styrene) from this emissions unit shall not exceed 0.85 pound per hour and 3.40 tons per year. See sections A.2.h - A.2.I and B.1 of these terms and conditions.

2. Additional Terms and Conditions

- (a) The emissions of organic materials from the production operation consist of styrene, a photochemically reactive material, as defined in OAC rule 3745-21-01 (C)(5).
The permittee shall only use non-photochemically reactive material for clean-up.
Particulate emissions generated from emissions units P003, P004, P005, and P006 combined shall not exceed 1.00 pounds per hour and 4.38 tons per year.
Organic compounds (OC) emissions from the use of acetone or any other non-photochemically reactive clean-up material in emissions units P003, P004, P005, and P006 combined shall not exceed 0.40 tons per year.
A cover shall be used on this emissions unit. The permittee shall keep the mixer cover closed while actual mixing is occurring, except when adding materials to this emissions unit.
The permittee shall use a shaking-type dust collector with timer, which shall periodically clean the dust cake from the bags, to control the particulate emissions generated from the operation of this emissions unit.
The permittee shall use VOC vapor-suppressed bags to store the mixed materials prior to further use.
The facility-wide VOC (styrene) emissions shall not exceed 9.00 tons per year, based upon a rolling, 12-month summation.
The permittee shall seek pre-approval from Ohio EPA, by (at a minimum) submitting facility-wide

potential-to-emit (PTE) analysis, before the installation of any additional pre-blending tank at the facility. This does not waive the permittee responsibility to comply with OAC rule 3745-31.

The maximum percentage of styrene in the pre-blended liquid materials shall not exceed forty-six percent (46.00 %) by weight.

Only pre-blended liquid materials originating from this facility's pre-blending tanks shall be used in this emissions unit. Pre-blended liquid materials are prohibited from being transferred to any holding tanks or storage vessels in or outside of this facility, except in cases of malfunction.

The pre-blending tanks in the facility shall be operated in such a manner that each complete batch of the pre-blended liquid materials shall be transferred to only one mixer at this facility. Therefore, when the two pre-blending tanks are operating there shall be no more than two mixers in operation at any given time at this facility.

B. Operational Restrictions

1. The total styrene throughput in the facility shall be no more than 1,755,410 pounds on a rolling, 12-month summation basis.

To ensure enforceability during the first 12 calendar months of operation, following the issuance of permit to install No. 02-21414, March 28, 2006, the permittee shall not exceed the styrene throughput specified in the following table:

Month(s) Maximum Allowable Cumulative Styrene Throughput (Pounds)

1 146,284
 1 - 2 292,568
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 1 - 10 1,462,840
 1 - 11 1,609,124
 1 - 12 1,755,410

After the first 12 calendar months of operation following the issuance of permit to install No. 02-21414, March 28, 2006, compliance with the annual styrene throughput limitation shall be based upon a rolling, 12-month summation of styrene throughput.

C. Monitoring and/or Record Keeping Requirements

1. The permittee shall properly operate and maintain the timer in the dust collector, which shall periodically clean the dust cake from the bags, while the emissions unit is in operation. The timer shall be installed, calibrated, operated, and maintained in accordance with the manufacturer's recommendations, instructions, and operating manual(s). The permittee shall check the timer on a weekly basis.
2. The permittee shall perform weekly checks, when the emissions unit is in operation and when the weather conditions allow, for any visible particulate emissions from the stack of the dust collector serving this emissions unit. The presence or absence of any visible emissions shall be noted in an operations log. If visible emissions are observed, the permittee shall also note the following in operation log:

- a. the color of the emissions;
- b. whether the emissions are representative of normal operations;
- c. if the emissions are not representative of normal operations, the cause of the abnormal emissions;
- d. the total duration of any visible emission incident; and
- e. any corrective actions taken to eliminate the visible emissions.

3. The permittee shall record the following information for this emissions unit each day:
 - a. The name and identification number of each batch of materials mixed in this emissions unit.
 - b. The total operating hours of this emissions unit, defined as "OT", in hours per day.
 - c. The amount of pre-blended liquid materials used in each batch, defined as "AM", in pounds per batch.
 - d. The percentage of styrene in the pre-blended liquid materials by weight in each batch, defined as "ST%", in pounds styrene per pound of pre-blended liquid materials.
 - e. The total VOC (styrene) emissions from this emissions unit for the day, defined as "DVOC", in pounds per day. "DVOC" shall be calculated as follows:

DVOC = the sum, from $i = 1$ to $i = n$ of $[(AM)(ST\%)(EF)]i$,

where,

i = subscript denoting an individual mixing batch of this emissions unit;

n = the total number of mixing batch of this emissions unit; and

EF = emission factor, in pounds VOC emissions per pound of styrene input, determined by the most recent stack test.

- f. The average hourly VOC (styrene) emissions from this emissions unit, "Hvoc", in pounds per hour, shall be calculated as follows:

$$Hvoc = (DVOC)/(OT)$$

4. The permittee shall keep the following information each month:
 - a. The monthly VOC (styrene) emissions from this emissions unit, in tons per month;
 - b. The monthly facility-wide VOC (styrene) emissions, in tons per month;
 - c. The rolling, 12-month summation of the total facility-wide VOC (styrene) emissions, in tons.
 - d. The monthly styrene throughput, in pounds per month; and
 - e. The rolling, 12-month summation of total styrene throughput, in pounds.
5. The permittee shall keep the following clean-up material information each month for emissions units P003, P004, P005, and P006 combined:
 - a. The identification of each clean-up material employed and whether the clean-up material is a non-photochemically reactive material.
 - b. The volume of each clean-up material employed, defined as "Vclean-up", in gallons per month.
 - c. The OC content of each clean-up material, defined as "OCcontent", in pounds OC per gallon of the clean-up material.
 - d. The total OC emissions from clean-up materials, "OCclean-up", in pounds per month, shall be calculated as follows:

$$OCclean\text{-}up = \text{the sum, from } j = 1 \text{ to } j = m \text{ of } [(Vclean\text{-}up)(OCcontent)],$$
 where,
 j = subscript denoting an individual clean-up material; and
 m = the total number of clean-up materials employed.
 - e. The rolling, 12-month summation of the total OC emissions from clean-up materials, in tons.
6. The permittee shall keep a daily operating log with the following information:
 - a. Whether a cover is used while actual mixing is occurring (except when adding materials to this emissions unit). If a cover is not used in this emissions unit while actual mixing is occurring (except when adding materials to this emissions unit), an explanation of why this emissions unit's cover is not closed;
 - b. Whether this emissions unit accepts pre-blended liquid materials from one of the two pre-blending tanks at the facility. If this emissions unit accepts pre-blended liquid materials other than those originating from one of the two facility's pre-blending tanks, the reason for this activity, and the actual amount of pre-blended liquid materials being used by this emissions unit in this manner;
 - c. Whether the pre-blended liquid materials from pre-blending tanks at the facility are transferred into holding tanks or any other type of containers prior to use in the mixers. The log should include an explanation of any time material is transferred to a holding tank or other container because of an emergency or other abnormal circumstance, and the actual amount of pre-blended liquid materials being transferred.
7. The permit to install for emissions units P003, P004, P005, and P006 combined were evaluated based on the actual materials and design parameters of the emissions units' exhaust system, as specified by the permittee in the permit to install application. The Ohio EPA's "Review of New Sources of Air Toxic Emissions" policy ("Air Toxic Policy") was applied for each pollutant potentially emitted by this emissions unit, using data from the permit to install application and the SCREEN 3.0 model (or other Ohio EPA approved model). The predicted 1-hour maximum ground-level concentration from the use of the SCREEN 3.0 model was compared to the Maximum Acceptable Ground-Level Concentration (MAGLC). The following summarizes the results of the modeling for the "worst case" pollutant(s):

 Pollutant: styrene
 TLV (mg/m3): 85.202
 Maximum Hourly Emission Rate (lbs/hr): 2.06
 Predicted 1-Hour Maximum Ground-Level Concentration (ug/m3): 1,330
 MAGLC (ug/m3): 2,029
8. Physical changes to or changes in the method of operation of the emissions unit after its installation could affect the parameters used to determine whether or not the "Air Toxic Policy" is satisfied. Consequently, prior to making a change that could impact such parameters, the permittee shall conduct an evaluation to determine that the "Air Toxic Policy" will be satisfied. If, upon evaluation, the permittee determines that the "Air Toxic Policy" will not be satisfied, the permittee will not make the change. Changes that can affect the parameters used in applying the "Air Toxic Policy" include the following:
 - a. changes in the composition of the materials used (typically coatings or cleanup materials), or the use of new materials, that would result in the emission of a compound with a lower Threshold Limit Value (TLV), as indicated in the most recent version of the handbook entitled "American Conference of Governmental Industrial Hygienists (ACGIH)", than the lowest TLV value previously modeled;
 - b. changes in the composition of the materials, or use of new materials, that would result in an increase in emissions of any pollutant with a listed TLV that was proposed in the application and modeled; and
 - c. physical changes to the emissions units or the exhaust parameters (e.g., increased/decreased exhaust flow, changes in stack height, changes in stack diameter, etc.).
 If the permittee determines that the "Air Toxic Policy" will be satisfied for the above changes, the Ohio EPA will

not consider the change(s) to be a "modification" under OAC rule 3745-31-01 solely due to the emissions of any type of toxic air contaminant not previously emitted, and a modification of the existing permit to install would not be required. If the change(s) is (are) defined as a modification under other provisions of the modification definition, then the permittee shall obtain a final permit to install prior to the change.

9. The permittee shall collect, record, and retain the following information when it conducts evaluations to determine that the changed emissions unit will still satisfy the "Air Toxic Policy":
- a description of the parameters changed (composition of materials, new pollutants emitted, change in stack/exhaust parameters, etc.);
 - documentation of its evaluation and determination that the changed emissions unit still satisfies the "Air Toxic Policy"; and
 - where computer modeling is performed, a copy of the resulting computer model runs that show the results of the application of the "Air Toxic Policy" for the change.

D. Reporting Requirements

1. The permittee shall submit quarterly written reports which:
- identify all days during which any visible particulate emissions were observed from the stack serving this emissions unit; and
 - describe any corrective actions taken to eliminate the visible particulate emissions.
- These reports shall be submitted to the Director (the appropriate Ohio EPA District Office or local air agency) in accordance with the deviation reporting requirements in the General Term and Conditions.
2. The permittee shall submit deviation (excursion) reports which include the following information for this emissions unit:
- An identification of each day during which the average hourly VOC (styrene) emissions from this emissions unit exceeded 0.85 pound, and the actual average hourly VOC (styrene) emissions for each such day.
 - An identification of each month during which the rolling, 12-month facility-wide VOC (styrene) emissions exceeded 9.00 tons, and the actual rolling 12-month facility-wide VOC (styrene) emissions for each such month.
 - An identification of each day during which the maximum percentage of styrene in any batch of pre-blended liquid materials exceeded forty-six percent (46.00%) by weight limitation, and the actual styrene percentage by weight in pre-blended liquid materials for each such a batch in each day.
 - An identification of each day during which this emissions unit accepted pre-blended liquid materials other than those originating from one of the pre-blending tanks at this facility, and the actual amount of pre-blended liquid materials accepted by this emissions units for each such a batch in each day, along with the reason for such an activity.
 - An identification of each day during which any batch of pre-blended liquid materials originating from this facility's pre-blended tanks were transferred to more than one mixer in this facility, and the actual amount of pre-blended liquid materials has been transferred to each mixer for each such a batch in each day, along with the reason for such activities.
 - An identification of each day during which pre-blended liquid materials were transferred into any holding tanks or storage vessels in or outside of this facility, and the actual amount of pre-blended liquid materials has been transferred, along with the reason for such activities.
 - An identification of each month during which a photochemically reactive clean-up material was employed in emissions units P003, P004, P005, and P006, and the actual amount of photochemically reactive clean-up material has been employed for each such a month.
 - An identification of each month during which the rolling, 12-month total styrene throughput in the facility exceeded 1,755,410 pounds, and the actual amount of styrene throughput in each such month.
3. All deviation (excursion) reports shall be submitted in accordance with the General Terms and Conditions.
4. The permittee shall submit annual reports that specify the VOC (styrene) emissions from this emissions unit, OC emissions from clean-up material employed in emissions units P003, P004, P005, and P006, as well as the total styrene throughput and facility-wide VOC (styrene) emissions. The reports shall include the calculations, shall be submitted by January 31 of each year, and shall cover the previous calendar year.

E. Testing Requirements

1. Compliance with the emission limitation in section A.1 of these terms and conditions shall be determined in accordance with the following method(s):
- Emission Limitation: 1.0 lb/hr of particulate for emissions units P003 - P006 combined
- Applicable Compliance Method:
Compliance shall be determined in accordance with the following:
- $$EPP002-P005 = (ME)(FR)(60 \text{ min/hr})/(7,000 \text{ grains/lb})$$
- where,
ME = the maximum emission rate from the dust collector stack by the manufacture guarantee number, which is 0.03 grain/ft³; and
FR = the maximum flow rate of the dust collector = 3,900 ft³/min.
- If required, the permittee shall demonstrate compliance by emission testing in accordance with Method 5, 40 CFR Part 60, Appendix A.

b. Emissions Limitation: 0.85 lb/hr of VOC (styrene)

Applicable Compliance Method:

Compliance shall be determined based upon record keeping requirements specified in section C.3 of these terms and conditions. If required, the permittee shall demonstrate compliance by emission testing in accordance with Method 25A, 40 CFR Part 60, Appendix A.

c. Emission Limitation:
3.40 tons/yr of VOC (styrene)

Applicable Compliance Method:

Compliance shall be determined based upon record keeping requirements specified in section C.4 of these terms and conditions.

d. Emission Limitation:
0.4 ton/yr of OC from clean-up material employed in emissions units P003 - P006 combined

Applicable Compliance Method:

Compliance shall be determined based upon record keeping requirements specified in section C.5 of these terms and conditions.

e. Emission Limitation:
4.38 tons/yr of particulate for emissions units P003 - P006 combined

Applicable Compliance Method:

The tons per year limitations were developed by multiplying the pound per hour limitations by the maximum operating schedule of 8,760 hours per year, and dividing by 2,000 pounds per ton. Therefore, provided compliance is shown with the hourly limitations, compliance will also be shown with the annual limitations.

f. Emission Limitation: 5% opacity as 6-minute average

Applicable Compliance Method:

Compliance shall be determined by visible emission evaluations performed in accordance with OAC rule 3745-17-03 (B)(1) using the test methods and procedures specified in U.S. EPA Reference Method 9.

g. Emission Limitation: 9.00 tons per year of VOC (styrene) facility-wide

Applicable Compliance Method:

Compliance shall be determined based upon record keeping requirements specified in section C.4 of these terms and conditions.

h. Emissions Limitation: 46.00% styrene by weight in pre-blended liquid materials

Applicable Compliance Method:

Compliance shall be determined based upon record keeping requirements specified in section C.3 of these terms and conditions.

i. Emission Limitation: 1,755,410 pounds of total styrene throughput

Applicable Compliance Method:

Compliance shall be determined based upon record keeping requirements specified in section C.4 of these terms and conditions.

e. Emission Limitation:
4.38 tons/yr of particulate for emissions units P003 - P006 combined

Applicable Compliance Method:

The tons per year limitations were developed by multiplying the pound per hour limitations by the maximum operating schedule of 8,760 hours per year, and dividing by 2,000 pounds per ton. Therefore, provided compliance is shown with the hourly limitations, compliance will also be shown with the annual limitations.

f. Emission Limitation: 5% opacity as 6-minute average

Applicable Compliance Method:

Compliance shall be determined by visible emission evaluations performed in accordance with OAC rule 3745-17-03 (B)(1) using the test methods and procedures specified in U.S. EPA Reference Method 9.

g. Emission Limitation: 9.00 tons per year of VOC (styrene) facility-wide

Applicable Compliance Method:

Compliance shall be determined based upon record keeping requirements specified in section C.4 of these terms and conditions.

h. Emissions Limitation: 46.00% styrene by weight in pre-blended liquid materials

Applicable Compliance Method:

Compliance shall be determined based upon record keeping requirements specified in section C.3 of these terms and conditions.

i. Emission Limitation: 1,755,410 pounds of total styrene throughput

Applicable Compliance Method:

Compliance shall be determined based upon record keeping requirements specified in section C.4 of these terms and conditions.

2. The permittee shall conduct, or have conducted, emission testing for this emissions unit in accordance with the following requirements:

- a. The emission testing shall be conducted within six months prior to permit renewal.
- b. The emission testing shall be conducted to demonstrate compliance with the allowable hourly mass emission rate for VOC (styrene) from this emissions unit and determine an emission factor of VOC (styrene) emissions for this emissions unit.
- c. The following test method(s) shall be employed to demonstrate compliance with the allowable mass emission rate(s): for VOC (styrene) mass emission rate, Method 25A of 40 CFR Part 60, Appendix A and Method 204F of 40 CFR Part 51 Appendix M. Alternative U.S. EPA-approved test methods may be used with prior approval from the Ohio EPA. The test methods and procedures selected shall be based on a consideration of the diversity of the organic species present and their total concentration, and on a consideration of the potential presence of interfering gases.

d. The test(s) shall be conducted while the emissions unit is operating at or near its maximum capacity, unless otherwise specified or approved by the appropriate Ohio EPA District Office or local air agency. Not later than 30 days prior to the proposed test date(s), the permittee shall submit an "Intent to Test" notification to the appropriate Ohio EPA District Office or local air agency. The "Intent to Test" notification shall describe in detail the proposed test methods and procedures, the emissions unit operating parameters, the time (s) and date(s) of the test(s), and the person(s) who will be conducting the test(s). Failure to submit such notification for review and approval prior to the test(s) may result in the Ohio EPA District Office's or local air agency's refusal to accept the results of the emission test(s).

Personnel from the appropriate Ohio EPA District Office or local air agency shall be permitted to witness the test(s), examine the testing equipment, and acquire data and information necessary to ensure that the operation of the emissions unit and the testing procedures provide a valid characterization of the emissions from the emissions unit and/or the performance of the control equipment.

A comprehensive written report on the results of the emissions test(s) shall be signed by the person or persons responsible for the tests and submitted to the appropriate Ohio EPA District Office or local air agency within 30 days following completion of the test(s). The permittee may request additional time for the submittal of the written report, where warranted, with prior approval from the appropriate Ohio EPA District Office or local air agency.

F. Miscellaneous Requirements

- 1. None

THIS IS NOT AN OFFICIAL VERSION OF THE PERMIT. SEE PAGE 1 FOR ADDITIONAL INFORMATION

Facility ID: 0228000194 Emissions Unit ID: P005 Issuance type: Final State Permit To Operate

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Part II - Special Terms and Conditions

This permit document constitutes a permit-to-install issued in accordance with ORC 3704.03(F) and a permit-to-operate issued in accordance with ORC 3704.03(G).

- 1. For the purpose of a permit-to-install document, the emissions unit terms and conditions identified below are federally enforceable with the exception of those listed below which are enforceable under state law only.
 - (a) None.
- 2. For the purpose of a permit-to-operate document, the emissions unit terms and conditions identified below are enforceable under state law only with the exception of those listed below which are federally enforceable.
 - (a) None.

A. Applicable Emissions Limitations and/or Control Requirements

- 1. The specific operation(s), property, and/or equipment which constitute this emissions unit are listed in the following table along with the applicable rules and/or requirements and with the applicable emissions limitations and/or control measures. Emissions from this unit shall not exceed the listed limitations, and the listed control measures shall be employed. Additional applicable emissions limitations and/or control measures (if any) may be specified in narrative form following the table.

<u>Operations, Property, and/or Equipment</u>	<u>Applicable Rules/Requirements</u>	<u>Applicable Emissions Limitations/Control Measures</u>
P005 - BMC Mixer No. 1051 J.H. Day Cincinnatus 200-gallon (1,200 lbs) Sigma Mixer	OAC rule 3745-17-07 (A)	The emission limitation specified by this rule is less stringent than the emission limitation established pursuant to OAC rule 3745-31-05 (A)(3).
	OAC rule 3745-17-11 (B)	The emission limitation specified by this rule is less stringent than the emission limitation established pursuant to OAC rule 3745-31-05 (A)(3).
	OAC rule 3745-21-07 (G)(2)	The hourly limit based on this applicable rule is less stringent than the hourly limit established pursuant to OAC rule 3745-31-05 (A)(3).
	OAC rule 3745-31-05 (A)(3)	See section A.2.a of these terms and conditions. Visible particulate emissions from the dust collector

PTI No. 02-21414

stack shall not exceed five percent (5%) opacity as a six-minute average.

See sections A.2.b - A.2.g of these terms and conditions.

Volatile organic compound (VOC) emissions (styrene) from this emissions unit shall not exceed 1.21 pound per hour and 4.85 tons per year.

OAC rule 3745-31-05 (C)
PTI No. 02-21414

See sections A.2.h - A.2.1 and B.1 of these terms and conditions.

2. Additional Terms and Conditions

- (a) The emissions of organic materials from the production operation consist of styrene, a photochemically reactive material, as defined in OAC rule 3745-21-01 (C)(5).
The permittee shall only use non-photochemically reactive material for clean-up.
Particulate emissions generated from emissions units P003, P004, P005, and P006 combined shall not exceed 1.00 pounds per hour and 4.38 tons per year.
Organic compounds (OC) emissions from the use of acetone or any other non-photochemically reactive clean-up material in emissions units P003, P004, P005, and P006 combined shall not exceed 0.40 tons per year.
A cover shall be used on this emissions unit. The permittee shall keep the mixer cover closed while actual mixing is occurring, except when adding materials to this emissions unit.
The permittee shall use a shaking-type dust collector with timer, which shall periodically clean the dust cake from the bags, to control the particulate emissions generated from the operation of this emissions unit.
The permittee shall use VOC vapor-suppressed bags to store the mixed materials prior to further use.
The facility-wide VOC (styrene) emissions shall not exceed 9.00 tons per year, based upon a rolling, 12-month summation.
The permittee shall seek pre-approval from Ohio EPA, by (at a minimum) submitting facility-wide potential-to-emit (PTE) analysis, before the installation of any additional pre-blending tank at the facility. This does not waive the permittee responsibility to comply with OAC rule 3745-31.
The maximum percentage of styrene in the pre-blended liquid materials shall not exceed forty-six percent (46.00 %) by weight.
Only pre-blended liquid materials originating from this facility's pre-blending tanks shall be used in this emissions unit. Pre-blended liquid materials are prohibited from being transferred to any holding tanks or storage vessels in or outside of this facility, except in cases of malfunction.
The pre-blending tanks in the facility shall be operated in such a manner that each complete batch of the pre-blended liquid materials shall be transferred to only one mixer at this facility. Therefore, when the two pre-blending tanks are operating there shall be no more than two mixers in operation at any given time at this facility.

B. Operational Restrictions

- 1. The total styrene throughput in the facility shall be no more than 1,755,410 pounds on a rolling, 12-month summation basis.

To ensure enforceability during the first 12 calendar months of operation, following the issuance of permit to install No. 02-21414, March 28, 2006, the permittee shall not exceed the styrene throughput specified in the following table:

Month(s) Maximum Allowable Cumulative Styrene Throughput (Pounds)

1	146,284
1 - 2	292,568
1 - 3	438,852
1 - 4	585,136
1 - 5	731,420
1 - 6	877,704
1 - 7	1,023,988
1 - 8	1,170,272
1 - 9	1,316,556
1 - 10	1,462,840
1 - 11	1,609,124
1 - 12	1,755,410

After the first 12 calendar months of operation following the issuance of permit to install No. 02-21414, March 28, 2006, compliance with the annual styrene throughput limitation shall be based upon a rolling, 12-month summation of styrene throughput.

C. Monitoring and/or Record Keeping Requirements

- 1. The permittee shall properly operate and maintain the timer in the dust collector, which shall periodically clean the dust cake from the bags, while the emissions unit is in operation. The timer shall be installed, calibrated, operated, and maintained in accordance with the manufacturer's recommendations, instructions, and operating manual(s). The permittee shall check the timer on a weekly basis.
- 2. The permittee shall perform weekly checks, when the emissions unit is in operation and when the weather conditions allow, for any visible particulate emissions from the stack of the dust collector serving this emissions unit. The presence or absence of any visible emissions shall be noted in an operations log. If visible emissions are observed, the permittee shall also note the following in operation log:
 - a. the color of the emissions;
 - b. whether the emissions are representative of normal operations;

- c. if the emissions are not representative of normal operations, the cause of the abnormal emissions;
- d. the total duration of any visible emission incident; and
- e. any corrective actions taken to eliminate the visible emissions.
3. The permittee shall record the following information for this emissions unit each day:
- a. The name and identification number of each batch of materials mixed in this emissions unit.
- b. The total operating hours of this emissions unit, defined as "OT", in hours per day.
- c. The amount of pre-blended liquid materials used in each batch, defined as "AM", in pounds per batch.
- d. The percentage of styrene in the pre-blended liquid materials by weight in each batch, defined as "ST%", in pounds styrene per pound of pre-blended liquid materials.
- e. The total VOC (styrene) emissions from this emissions unit for the day, defined as "DVOC", in pounds per day. "DVOC" shall be calculated as follows:
- $$\text{DVOC} = \text{the sum, from } i = 1 \text{ to } i = n \text{ of } [(AM)(ST\%)(EF)]_i,$$
- where,
i = subscript denoting an individual mixing batch of this emissions unit;
n = the total number of mixing batch of this emissions unit; and
 EF = emission factor, in pounds VOC emissions per pound of styrene input, determined by the most recent stack test.
- f. The average hourly VOC (styrene) emissions from this emissions unit, "Hvoc", in pounds per hour, shall be calculated as follows:
- $$\text{Hvoc} = (\text{DVOC})/(\text{OT})$$
4. The permittee shall keep the following information each month:
- a. The monthly VOC (styrene) emissions from this emissions unit, in tons per month;
- b. The monthly facility-wide VOC (styrene) emissions, in tons per month;
- c. The rolling, 12-month summation of the total facility-wide VOC (styrene) emissions, in tons.
- d. The monthly styrene throughput, in pounds per month; and
- e. The rolling, 12-month summation of total styrene throughput, in pounds.
5. The permittee shall keep the following clean-up material information each month for emissions units P003, P004, P005, and P006 combined:
- a. The identification of each clean-up material employed and whether the clean-up material is a non-photochemically reactive material.
- b. The volume of each clean-up material employed, defined as "Vclean-up", in gallons per month.
- c. The OC content of each clean-up material, defined as "OCcontent", in pounds OC per gallon of the clean-up material.
- d. The total OC emissions from clean-up materials, "OCclean-up", in pounds per month, shall be calculated as follows:
- $$\text{OCclean-up} = \text{the sum, from } j = 1 \text{ to } j = m \text{ of } [(V\text{clean-up})(OC\text{content})]_j,$$
- where,
j = subscript denoting an individual clean-up material; and
m = the total number of clean-up materials employed.
- e. The rolling, 12-month summation of the total OC emissions from clean-up materials, in tons.
6. The permittee shall keep a daily operating log with the following information:
- a. Whether a cover is used while actual mixing is occurring (except when adding materials to this emissions unit). If a cover is not used in this emissions unit while actual mixing is occurring (except when adding materials to this emissions unit), an explanation of why this emissions unit's cover is not closed;
- b. Whether this emissions unit accepts pre-blended liquid materials from one of the two pre-blending tanks at the facility. If this emissions unit accepts pre-blended liquid materials other than those originating from one of the two facility's pre-blending tanks, the reason for this activity, and the actual amount of pre-blended liquid materials being used by this emissions unit in this manner;
- c. Whether the pre-blended liquid materials from pre-blending tanks at the facility are transferred into holding tanks or any other type of containers prior to use in the mixers. The log should include an explanation of any time material is transferred to a holding tank or other container because of an emergency or other abnormal circumstance, and the actual amount of pre-blended liquid materials being transferred.
7. The permit to install for emissions units P003, P004, P005, and P006 combined were evaluated based on the actual materials and design parameters of the emissions units' exhaust system, as specified by the permittee in the permit to install application. The Ohio EPA's "Review of New Sources of Air Toxic Emissions" policy ("Air

Toxic Policy") was applied for each pollutant potentially emitted by this emissions unit, using data from the permit to install application and the SCREEN 3.0 model (or other Ohio EPA approved model). The predicted 1-hour maximum ground-level concentration from the use of the SCREEN 3.0 model was compared to the Maximum Acceptable Ground-Level Concentration (MAGLC). The following summarizes the results of the modeling for the "worst case" pollutant(s):

Pollutant: styrene
 TLV (mg/m3): 85.202
 Maximum Hourly Emission Rate (lbs/hr): 2.06
 Predicted 1-Hour Maximum Ground-Level Concentration (ug/m3): 1,330
 MAGLC (ug/m3): 2,029

8. Physical changes to or changes in the method of operation of the emissions unit after its installation could affect the parameters used to determine whether or not the "Air Toxic Policy" is satisfied. Consequently, prior to making a change that could impact such parameters, the permittee shall conduct an evaluation to determine that the "Air Toxic Policy" will be satisfied. If, upon evaluation, the permittee determines that the "Air Toxic Policy" will not be satisfied, the permittee will not make the change. Changes that can affect the parameters used in applying the "Air Toxic Policy" include the following:

a. changes in the composition of the materials used (typically coatings or cleanup materials), or the use of new materials, that would result in the emission of a compound with a lower Threshold Limit Value (TLV), as indicated in the most recent version of the handbook entitled "American Conference of Governmental Industrial Hygienists (ACGIH)", than the lowest TLV value previously modeled;

b. changes in the composition of the materials, or use of new materials, that would result in an increase in emissions of any pollutant with a listed TLV that was proposed in the application and modeled; and

c. physical changes to the emissions units or the exhaust parameters (e.g., increased/decreased exhaust flow, changes in stack height, changes in stack diameter, etc.).

If the permittee determines that the "Air Toxic Policy" will be satisfied for the above changes, the Ohio EPA will not consider the change(s) to be a "modification" under OAC rule 3745-31-01 solely due to the emissions of any type of toxic air contaminant not previously emitted, and a modification of the existing permit to install would not be required. If the change(s) is (are) defined as a modification under other provisions of the modification definition, then the permittee shall obtain a final permit to install prior to the change.

9. The permittee shall collect, record, and retain the following information when it conducts evaluations to determine that the changed emissions unit will still satisfy the "Air Toxic Policy":

a. a description of the parameters changed (composition of materials, new pollutants emitted, change in stack/exhaust parameters, etc.);

b. documentation of its evaluation and determination that the changed emissions unit still satisfies the "Air Toxic Policy"; and

c. where computer modeling is performed, a copy of the resulting computer model runs that show the results of the application of the "Air Toxic Policy" for the change.

D. Reporting Requirements

1. The permittee shall submit quarterly written reports which:

a. identify all days during which any visible particulate emissions were observed from the stack serving this emissions unit; and

b. describe any corrective actions taken to eliminate the visible particulate emissions.

These reports shall be submitted to the Director (the appropriate Ohio EPA District Office or local air agency) in accordance with the deviation reporting requirements in the General Term and Conditions.

2. The permittee shall submit deviation (excursion) reports which include the following information for this emissions unit:

a. An identification of each day during which the average hourly VOC (styrene) emissions from this emissions unit exceeded 1.21 pound, and the actual average hourly VOC (styrene) emissions for each such day.

b. An identification of each month during which the rolling, 12-month facility-wide VOC (styrene) emissions exceeded 9.00 tons, and the actual rolling 12-month facility-wide VOC (styrene) emissions for each such month.

c. An identification of each day during which the maximum percentage of styrene in any batch of pre-blended liquid materials exceeded forty-six percent (46.00%) by weight limitation, and the actual styrene percentage by weight in pre-blended liquid materials for each such a batch in each day.

d. An identification of each day during which this emissions unit accepted pre-blended liquid materials other than those originating from one of the pre-blending tanks at this facility, and the actual amount of pre-blended liquid materials accepted by this emissions units for each such a batch in each day, along with the reason for such an activity.

e. An identification of each day during which any batch of pre-blended liquid materials originating from this facility's pre-blended tanks were transferred to more than one mixer in this facility, and the actual amount of pre-blended liquid materials has been transferred to each mixer for each such a batch in each day, along with the reason for such activities.

f. An identification of each day during which pre-blended liquid materials were transferred into any holding tanks or storage vessels in or outside of this facility, and the actual amount of pre-blended liquid materials has been transferred, along with the reason for such activities.

g. An identification of each month during which a photochemically reactive clean-up material was employed in

emissions units P003, P004, P005, and P006, and the actual amount of photochemically reactive clean-up material has been employed for each such a month.

h. An identification of each month during which the rolling, 12-month total styrene throughput in the facility exceeded 1,755,410 pounds, and the actual amount of styrene throughput in each such month.

3. All deviation (excursion) reports shall be submitted in accordance with the General Terms and Conditions.
4. The permittee shall submit annual reports that specify the VOC (styrene) emissions from this emissions unit, OC emissions from clean-up material employed in emissions units P003, P004, P005, and P006, as well as the total styrene throughput and facility-wide VOC (styrene) emissions. The reports shall include the calculations, shall be submitted by January 31 of each year, and shall cover the previous calendar year.

E. Testing Requirements

1. Compliance with the emission limitation in section A.1 of these terms and conditions shall be determined in accordance with the following method(s):

a. Emission Limitation: 1.0 lb/hr of particulate for emissions units P003 - P006 combined

Applicable Compliance Method:

Compliance shall be determined in accordance with the following:

$$EPP002-P005 = (ME)(FR)(60 \text{ min/hr})/(7,000 \text{ grains/lb})$$

where,

ME = the maximum emission rate from the dust collector stack by the manufacture guarantee number, which is 0.03 grain/ft³; and

FR = the maximum flow rate of the dust collector = 3,900 ft³/min.

If required, the permittee shall demonstrate compliance by emission testing in accordance with Method 5, 40 CFR Part 60, Appendix A.

b. Emissions Limitation: 1.21 lb/hr of VOC (styrene)

Applicable Compliance Method:

Compliance shall be determined based upon record keeping requirements specified in section C.3 of these terms and conditions. If required, the permittee shall demonstrate compliance by emission testing in accordance with Method 25A, 40 CFR Part 60, Appendix A.

c. Emission Limitation:
4.85 tons/yr of VOC (styrene)

Applicable Compliance Method:

Compliance shall be determined based upon record keeping requirements specified in section C.4 of these terms and conditions.

d. Emission Limitation:
0.4 ton/yr of OC from clean-up material employed in emissions units P003 - P006 combined

Applicable Compliance Method:

Compliance shall be determined based upon record keeping requirements specified in section C.5 of these terms and conditions.

e. Emission Limitation:
4.38 tons/yr of particulate for emissions units P003 - P006 combined

Applicable Compliance Method:

The tons per year limitations were developed by multiplying the pound per hour limitations by the maximum operating schedule of 8,760 hours per year, and dividing by 2,000 pounds per ton. Therefore, provided compliance is shown with the hourly limitations, compliance will also be shown with the annual limitations.

f. Emission Limitation: 5% opacity as 6-minute average

Applicable Compliance Method:

Compliance shall be determined by visible emission evaluations performed in accordance with OAC rule 3745-17-03 (B)(1) using the test methods and procedures specified in U.S. EPA Reference Method 9.

g. Emission Limitation: 9.00 tons per year of VOC (styrene) facility-wide

Applicable Compliance Method:

Compliance shall be determined based upon record keeping requirements specified in section C.4 of these terms and conditions.

h. Emissions Limitation: 46.00% styrene by weight in pre-blended liquid materials

Applicable Compliance Method:

Compliance shall be determined based upon record keeping requirements specified in section C.3 of these terms and conditions.

i. Emission Limitation: 1,755,410 pounds of total styrene throughput

Applicable Compliance Method:

Compliance shall be determined based upon record keeping requirements specified in section C.4 of these terms and conditions.

2. The permittee shall conduct, or have conducted, emission testing for this emissions unit in accordance with the following requirements:

- a. The emission testing shall be conducted within six months prior to permit renewal.
- b. The emission testing shall be conducted to demonstrate compliance with the allowable hourly mass emission rate for VOC (styrene) from this emissions unit and determine an emission factor of VOC (styrene) emissions for this emissions unit.
- c. The following test method(s) shall be employed to demonstrate compliance with the allowable mass emission rate(s): for VOC (styrene) mass emission rate, Method 25A of 40 CFR Part 60, Appendix A and Method 204F of 40 CFR Part 51 Appendix M. Alternative U.S. EPA-approved test methods may be used with prior approval from the Ohio EPA. The test methods and procedures selected shall be based on a consideration of the diversity of the organic species present and their total concentration, and on a consideration of the potential presence of interfering gases.

d. The test(s) shall be conducted while the emissions unit is operating at or near its maximum capacity, unless otherwise specified or approved by the appropriate Ohio EPA District Office or local air agency. Not later than 30 days prior to the proposed test date(s), the permittee shall submit an "Intent to Test" notification to the appropriate Ohio EPA District Office or local air agency. The "Intent to Test" notification shall describe in detail the proposed test methods and procedures, the emissions unit operating parameters, the time (s) and date(s) of the test(s), and the person(s) who will be conducting the test(s). Failure to submit such notification for review and approval prior to the test(s) may result in the Ohio EPA District Office's or local air agency's refusal to accept the results of the emission test(s).

Personnel from the appropriate Ohio EPA District Office or local air agency shall be permitted to witness the test(s), examine the testing equipment, and acquire data and information necessary to ensure that the operation of the emissions unit and the testing procedures provide a valid characterization of the emissions from the emissions unit and/or the performance of the control equipment.

A comprehensive written report on the results of the emissions test(s) shall be signed by the person or persons responsible for the tests and submitted to the appropriate Ohio EPA District Office or local air agency within 30 days following completion of the test(s). The permittee may request additional time for the submittal of the written report, where warranted, with prior approval from the appropriate Ohio EPA District Office or local air agency.

F. Miscellaneous Requirements

- 1. None

THIS IS NOT AN OFFICIAL VERSION OF THE PERMIT. SEE PAGE 1 FOR ADDITIONAL INFORMATION

Facility ID: 0228000194 Emissions Unit ID: P006 Issuance type: Final State Permit To Operate

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Part II - Special Terms and Conditions

This permit document constitutes a permit-to-install issued in accordance with ORC 3704.03(F) and a permit-to-operate issued in accordance with ORC 3704.03(G).

- 1. For the purpose of a permit-to-install document, the emissions unit terms and conditions identified below are federally enforceable with the exception of those listed below which are enforceable under state law only.
 - (a) None.
- 2. For the purpose of a permit-to-operate document, the emissions unit terms and conditions identified below are enforceable under state law only with the exception of those listed below which are federally enforceable.
 - (a) None.

A. Applicable Emissions Limitations and/or Control Requirements

- 1. The specific operation(s), property, and/or equipment which constitute this emissions unit are listed in the following table along with the applicable rules and/or requirements and with the applicable emissions limitations and/or control measures. Emissions from this unit shall not exceed the listed limitations, and the listed control measures shall be employed. Additional applicable emissions limitations and/or control measures (if any) may be specified in narrative form following the table.

<u>Operations, Property, and/or Equipment</u>	<u>Applicable Rules/Requirements</u>	<u>Applicable Emissions Limitations/Control Measures</u>
P006 - BMC Mixer No. 1052 Baker-Perkins 100-gallon (800 lbs) Sigma Mixer	OAC rule 3745-17-07 (A)	The emission limitation specified by this rule is less stringent than the emission limitation established pursuant to OAC rule 3745-31-05 (A)(3).
	OAC rule 3745-17-11 (B)	The emission limitation specified by this rule is less stringent than the emission limitation established pursuant to OAC rule 3745-31-05 (A)(3).
	OAC rule 3745-21-07 (G)(2)	The hourly limit based on this applicable rule is less stringent than the hourly limit established pursuant to OAC rule 3745-31-05 (A)(3).
	OAC rule 3745-31-05 (A)(3)	See section A.2.a of these terms and conditions. Visible particulate emissions from the dust collector

PTI No. 02-21414

stack shall not exceed five percent (5%) opacity as a six-minute average.

See sections A.2.b - A.2.g of these terms and conditions.

Volatile organic compound (VOC) emissions (styrene) from this emissions unit shall not exceed 0.81 pound per hour and 3.34 tons per year.

OAC rule 3745-31-05 (C)
PTI No. 02-21414

See sections A.2.h - A.2.1 and B.1 of these terms and conditions.

2. Additional Terms and Conditions

- (a) The emissions of organic materials from the production operation consist of styrene, a photochemically reactive material, as defined in OAC rule 3745-21-01 (C)(5).
The permittee shall only use non-photochemically reactive material for clean-up.
Particulate emissions generated from emissions units P003, P004, P005, and P006 combined shall not exceed 1.00 pounds per hour and 4.38 tons per year.
Organic compounds (OC) emissions from the use of acetone or any other non-photochemically reactive clean-up material in emissions units P003, P004, P005, and P006 combined shall not exceed 0.40 tons per year.
A cover shall be used on this emissions unit. The permittee shall keep the mixer cover closed while actual mixing is occurring, except when adding materials to this emissions unit.
The permittee shall use a shaking-type dust collector with timer, which shall periodically clean the dust cake from the bags, to control the particulate emissions generated from the operation of this emissions unit.
The permittee shall use VOC vapor-suppressed bags to store the mixed materials prior to further use.
The facility-wide VOC (styrene) emissions shall not exceed 9.00 tons per year, based upon a rolling, 12-month summation.
The permittee shall seek pre-approval from Ohio EPA, by (at a minimum) submitting facility-wide potential-to-emit (PTE) analysis, before the installation of any additional pre-blending tank at the facility. This does not waive the permittee responsibility to comply with OAC rule 3745-31.
The maximum percentage of styrene in the pre-blended liquid materials shall not exceed forty-six percent (46.00 %) by weight.
Only pre-blended liquid materials originating from this facility's pre-blending tanks shall be used in this emissions unit. Pre-blended liquid materials are prohibited from being transferred to any holding tanks or storage vessels in or outside of this facility, except in cases of malfunction.
The pre-blending tanks in the facility shall be operated in such a manner that each complete batch of the pre-blended liquid materials shall be transferred to only one mixer at this facility. Therefore, when the two pre-blending tanks are operating there shall be no more than two mixers in operation at any given time at this facility.

B. Operational Restrictions

- 1. The total styrene throughput in the facility shall be no more than 1,755,410 pounds on a rolling, 12-month summation basis.

To ensure enforceability during the first 12 calendar months of operation, following the issuance of permit to install No. 02-21414, March 28, 2006, the permittee shall not exceed the styrene throughput specified in the following table:

Month(s) Maximum Allowable Cumulative Styrene Throughput (Pounds)

1	146,284
1 - 2	292,568
1 - 3	438,852
1 - 4	585,136
1 - 5	731,420
1 - 6	877,704
1 - 7	1,023,988
1 - 8	1,170,272
1 - 9	1,316,556
1 - 10	1,462,840
1 - 11	1,609,124
1 - 12	1,755,410

After the first 12 calendar months of operation following the issuance of permit to install No. 02-21414, March 28, 2006, compliance with the annual styrene throughput limitation shall be based upon a rolling, 12-month summation of styrene throughput.

C. Monitoring and/or Record Keeping Requirements

- 1. The permittee shall properly operate and maintain the timer in the dust collector, which shall periodically clean the dust cake from the bags, while the emissions unit is in operation. The timer shall be installed, calibrated, operated, and maintained in accordance with the manufacturer's recommendations, instructions, and operating manual(s). The permittee shall check the timer on a weekly basis.
- 2. The permittee shall perform weekly checks, when the emissions unit is in operation and when the weather conditions allow, for any visible particulate emissions from the stack of the dust collector serving this emissions unit. The presence or absence of any visible emissions shall be noted in an operations log. If visible emissions are observed, the permittee shall also note the following in operation log:
 - a. the color of the emissions;
 - b. whether the emissions are representative of normal operations;

- c. if the emissions are not representative of normal operations, the cause of the abnormal emissions;
- d. the total duration of any visible emission incident; and
- e. any corrective actions taken to eliminate the visible emissions.
3. The permittee shall record the following information for this emissions unit each day:
- a. The name and identification number of each batch of materials mixed in this emissions unit.
- b. The total operating hours of this emissions unit, defined as "OT", in hours per day.
- c. The amount of pre-blended liquid materials used in each batch, defined as "AM", in pounds per batch.
- d. The percentage of styrene in the pre-blended liquid materials by weight in each batch, defined as "ST%", in pounds styrene per pound of pre-blended liquid materials.
- e. The total VOC (styrene) emissions from this emissions unit for the day, defined as "DVOC", in pounds per day. "DVOC" shall be calculated as follows:
- $$\text{DVOC} = \text{the sum, from } i = 1 \text{ to } i = n \text{ of } [(AM)(ST\%)(EF)]_i,$$
- where,
i = subscript denoting an individual mixing batch of this emissions unit;
n = the total number of mixing batch of this emissions unit; and
 EF = emission factor, in pounds VOC emissions per pound of styrene input, determined by the most recent stack test.
- f. The average hourly VOC (styrene) emissions from this emissions unit, "Hvoc", in pounds per hour, shall be calculated as follows:
- $$\text{Hvoc} = (\text{DVOC})/(\text{OT})$$
4. The permittee shall keep the following information each month:
- a. The monthly VOC (styrene) emissions from this emissions unit, in tons per month;
- b. The monthly facility-wide VOC (styrene) emissions, in tons per month;
- c. The rolling, 12-month summation of the total facility-wide VOC (styrene) emissions, in tons.
- d. The monthly styrene throughput, in pounds per month; and
- e. The rolling, 12-month summation of total styrene throughput, in pounds.
5. The permittee shall keep the following clean-up material information each month for emissions units P003, P004, P005, and P006 combined:
- a. The identification of each clean-up material employed and whether the clean-up material is a non-photochemically reactive material.
- b. The volume of each clean-up material employed, defined as "Vclean-up", in gallons per month.
- c. The OC content of each clean-up material, defined as "OCcontent", in pounds OC per gallon of the clean-up material.
- d. The total OC emissions from clean-up materials, "OCclean-up", in pounds per month, shall be calculated as follows:
- $$\text{OCclean-up} = \text{the sum, from } j = 1 \text{ to } j = m \text{ of } [(V\text{clean-up})(OC\text{content})]_j,$$
- where,
j = subscript denoting an individual clean-up material; and
m = the total number of clean-up materials employed.
- e. The rolling, 12-month summation of the total OC emissions from clean-up materials, in tons.
6. The permittee shall keep a daily operating log with the following information:
- a. Whether a cover is used while actual mixing is occurring (except when adding materials to this emissions unit). If a cover is not used in this emissions unit while actual mixing is occurring (except when adding materials to this emissions unit), an explanation of why this emissions unit's cover is not closed;
- b. Whether this emissions unit accepts pre-blended liquid materials from one of the two pre-blending tanks at the facility. If this emissions unit accepts pre-blended liquid materials other than those originating from one of the two facility's pre-blending tanks, the reason for this activity, and the actual amount of pre-blended liquid materials being used by this emissions unit in this manner;
- c. Whether the pre-blended liquid materials from pre-blending tanks at the facility are transferred into holding tanks or any other type of containers prior to use in the mixers. The log should include an explanation of any time material is transferred to a holding tank or other container because of an emergency or other abnormal circumstance, and the actual amount of pre-blended liquid materials being transferred.
7. The permit to install for emissions units P003, P004, P005, and P006 combined were evaluated based on the actual materials and design parameters of the emissions units' exhaust system, as specified by the permittee in the permit to install application. The Ohio EPA's "Review of New Sources of Air Toxic Emissions" policy ("Air

Toxic Policy") was applied for each pollutant potentially emitted by this emissions unit, using data from the permit to install application and the SCREEN 3.0 model (or other Ohio EPA approved model). The predicted 1-hour maximum ground-level concentration from the use of the SCREEN 3.0 model was compared to the Maximum Acceptable Ground-Level Concentration (MAGLC). The following summarizes the results of the modeling for the "worst case" pollutant(s):

Pollutant: styrene
 TLV (mg/m3): 85.202
 Maximum Hourly Emission Rate (lbs/hr): 2.06
 Predicted 1-Hour Maximum Ground-Level Concentration (ug/m3): 1,330
 MAGLC (ug/m3): 2,029

8. Physical changes to or changes in the method of operation of the emissions unit after its installation could affect the parameters used to determine whether or not the "Air Toxic Policy" is satisfied. Consequently, prior to making a change that could impact such parameters, the permittee shall conduct an evaluation to determine that the "Air Toxic Policy" will be satisfied. If, upon evaluation, the permittee determines that the "Air Toxic Policy" will not be satisfied, the permittee will not make the change. Changes that can affect the parameters used in applying the "Air Toxic Policy" include the following:

a. changes in the composition of the materials used (typically coatings or cleanup materials), or the use of new materials, that would result in the emission of a compound with a lower Threshold Limit Value (TLV), as indicated in the most recent version of the handbook entitled "American Conference of Governmental Industrial Hygienists (ACGIH)", than the lowest TLV value previously modeled;

b. changes in the composition of the materials, or use of new materials, that would result in an increase in emissions of any pollutant with a listed TLV that was proposed in the application and modeled; and

c. physical changes to the emissions units or the exhaust parameters (e.g., increased/decreased exhaust flow, changes in stack height, changes in stack diameter, etc.).

If the permittee determines that the "Air Toxic Policy" will be satisfied for the above changes, the Ohio EPA will not consider the change(s) to be a "modification" under OAC rule 3745-31-01 solely due to the emissions of any type of toxic air contaminant not previously emitted, and a modification of the existing permit to install would not be required. If the change(s) is (are) defined as a modification under other provisions of the modification definition, then the permittee shall obtain a final permit to install prior to the change.

9. The permittee shall collect, record, and retain the following information when it conducts evaluations to determine that the changed emissions unit will still satisfy the "Air Toxic Policy":

a. a description of the parameters changed (composition of materials, new pollutants emitted, change in stack/exhaust parameters, etc.);

b. documentation of its evaluation and determination that the changed emissions unit still satisfies the "Air Toxic Policy"; and

c. where computer modeling is performed, a copy of the resulting computer model runs that show the results of the application of the "Air Toxic Policy" for the change.

D. Reporting Requirements

1. The permittee shall submit quarterly written reports which:

a. identify all days during which any visible particulate emissions were observed from the stack serving this emissions unit; and

b. describe any corrective actions taken to eliminate the visible particulate emissions.

These reports shall be submitted to the Director (the appropriate Ohio EPA District Office or local air agency) in accordance with the deviation reporting requirements in the General Term and Conditions.

2. The permittee shall submit deviation (excursion) reports which include the following information for this emissions unit:

a. An identification of each day during which the average hourly VOC (styrene) emissions from this emissions unit exceeded 0.81 pound, and the actual average hourly VOC (styrene) emissions for each such day.

b. An identification of each month during which the rolling, 12-month facility-wide VOC (styrene) emissions exceeded 9.00 tons, and the actual rolling 12-month facility-wide VOC (styrene) emissions for each such month.

c. An identification of each day during which the maximum percentage of styrene in any batch of pre-blended liquid materials exceeded forty-six percent (46.00%) by weight limitation, and the actual styrene percentage by weight in pre-blended liquid materials for each such a batch in each day.

d. An identification of each day during which this emissions unit accepted pre-blended liquid materials other than those originating from one of the pre-blending tanks at this facility, and the actual amount of pre-blended liquid materials accepted by this emissions units for each such a batch in each day, along with the reason for such an activity.

e. An identification of each day during which any batch of pre-blended liquid materials originating from this facility's pre-blended tanks were transferred to more than one mixer in this facility, and the actual amount of pre-blended liquid materials has been transferred to each mixer for each such a batch in each day, along with the reason for such activities.

f. An identification of each day during which pre-blended liquid materials were transferred into any holding tanks or storage vessels in or outside of this facility, and the actual amount of pre-blended liquid materials has been transferred, along with the reason for such activities.

g. An identification of each month during which a photochemically reactive clean-up material was employed in

emissions units P003, P004, P005, and P006, and the actual amount of photochemically reactive clean-up material has been employed for each such a month.

h. An identification of each month during which the rolling, 12-month total styrene throughput in the facility exceeded 1,755,410 pounds, and the actual amount of styrene throughput in each such month.

3. All deviation (excursion) reports shall be submitted in accordance with the General Terms and Conditions.
4. The permittee shall submit annual reports that specify the VOC (styrene) emissions from this emissions unit, OC emissions from clean-up material employed in emissions units P003, P004, P005, and P006, as well as the total styrene throughput and facility-wide VOC (styrene) emissions. The reports shall include the calculations, shall be submitted by January 31 of each year, and shall cover the previous calendar year.

E. Testing Requirements

1. Compliance with the emission limitation in section A.1 of these terms and conditions shall be determined in accordance with the following method(s):

a. Emission Limitation: 1.0 lb/hr of particulate for emissions units P003 - P006 combined

Applicable Compliance Method:

Compliance shall be determined in accordance with the following:

$$EPP002-P005 = (ME)(FR)(60 \text{ min/hr})/(7,000 \text{ grains/lb})$$

where,

ME = the maximum emission rate from the dust collector stack by the manufacture guarantee number, which is 0.03 grain/ft³; and

FR = the maximum flow rate of the dust collector = 3,900 ft³/min.

If required, the permittee shall demonstrate compliance by emission testing in accordance with Method 5, 40 CFR Part 60, Appendix A.

b. Emissions Limitation: 0.81 lb/hr of VOC (styrene)

Applicable Compliance Method:

Compliance shall be determined based upon record keeping requirements specified in section C.3 of these terms and conditions. If required, the permittee shall demonstrate compliance by emission testing in accordance with Method 25A, 40 CFR Part 60, Appendix A.

c. Emission Limitation:

3.34 tons/yr of VOC (styrene)

Applicable Compliance Method:

Compliance shall be determined based upon record keeping requirements specified in section C.4 of these terms and conditions.

d. Emission Limitation:

0.4 ton/yr of OC from clean-up material employed in emissions units P003 - P006 combined

Applicable Compliance Method:

Compliance shall be determined based upon record keeping requirements specified in section C.5 of these terms and conditions.

e. Emission Limitation:

4.38 tons/yr of particulate for emissions units P003 - P006 combined

Applicable Compliance Method:

The tons per year limitations were developed by multiplying the pound per hour limitations by the maximum operating schedule of 8,760 hours per year, and dividing by 2,000 pounds per ton. Therefore, provided compliance is shown with the hourly limitations, compliance will also be shown with the annual limitations.

f. Emission Limitation: 5% opacity as 6-minute average

Applicable Compliance Method:

Compliance shall be determined by visible emission evaluations performed in accordance with OAC rule 3745-17-03 (B)(1) using the test methods and procedures specified in U.S. EPA Reference Method 9.

g. Emission Limitation: 9.00 tons per year of VOC (styrene) facility-wide

Applicable Compliance Method:

Compliance shall be determined based upon record keeping requirements specified in section C.4 of these terms and conditions.

h. Emissions Limitation: 46.00% styrene by weight in pre-blended liquid materials

Applicable Compliance Method:

Compliance shall be determined based upon record keeping requirements specified in section C.3 of these terms and conditions.

i. Emission Limitation: 1,755,410 pounds of total styrene throughput

Applicable Compliance Method:

Compliance shall be determined based upon record keeping requirements specified in section C.4 of these terms and conditions.

2. The permittee shall conduct, or have conducted, emission testing for this emissions unit in accordance with the following requirements:

a. The emission testing shall be conducted within six months prior to permit renewal.

b. The emission testing shall be conducted to demonstrate compliance with the allowable hourly mass emission rate for VOC (styrene) from this emissions unit and determine an emission factor of VOC (styrene) emissions for this emissions unit.

c. The following test method(s) shall be employed to demonstrate compliance with the allowable mass emission rate(s): for VOC (styrene) mass emission rate, Method 25A of 40 CFR Part 60, Appendix A and Method 204F of 40 CFR Part 51 Appendix M. Alternative U.S. EPA-approved test methods may be used with prior approval from the Ohio EPA. The test methods and procedures selected shall be based on a consideration of the diversity of the organic species present and their total concentration, and on a consideration of the potential presence of interfering gases.

d. The test(s) shall be conducted while the emissions unit is operating at or near its maximum capacity, unless otherwise specified or approved by the appropriate Ohio EPA District Office or local air agency. Not later than 30 days prior to the proposed test date(s), the permittee shall submit an "Intent to Test" notification to the appropriate Ohio EPA District Office or local air agency. The "Intent to Test" notification shall describe in detail the proposed test methods and procedures, the emissions unit operating parameters, the time (s) and date(s) of the test(s), and the person(s) who will be conducting the test(s). Failure to submit such notification for review and approval prior to the test(s) may result in the Ohio EPA District Office's or local air agency's refusal to accept the results of the emission test(s).

Personnel from the appropriate Ohio EPA District Office or local air agency shall be permitted to witness the test(s), examine the testing equipment, and acquire data and information necessary to ensure that the operation of the emissions unit and the testing procedures provide a valid characterization of the emissions from the emissions unit and/or the performance of the control equipment.

A comprehensive written report on the results of the emissions test(s) shall be signed by the person or persons responsible for the tests and submitted to the appropriate Ohio EPA District Office or local air agency within 30 days following completion of the test(s). The permittee may request additional time for the submittal of the written report, where warranted, with prior approval from the appropriate Ohio EPA District Office or local air agency.

F. Miscellaneous Requirements

1. None